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ABSTRACT

This brief overview of child language acquisition begins with a discussion of the affective and cognitive dimensions of the transition period from babbling to speech. Three theories of language acquisition--reinforcement theory, social learning theory, and "innate mechanism" theory--are reviewed. Several theories of the function of language, notably those of Piaget and Mead, are outlined. (JB)

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Language development in the preschool child

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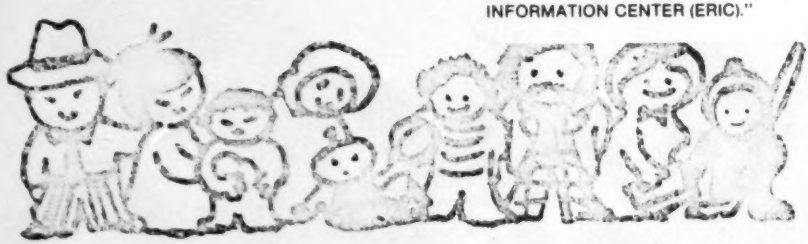

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LANGUAGE DEVELOPMENT IN THE PRE-SCHOOL CHILD

Helen Lenskyj

INTRODUCTION

This paper will examine the characteristics of various stages of language development in young children, some theories about the nature of language acquisition and the function of language, and the relationship between language development and other aspects of child development, in particular cognitive development and the growth of personality.

... 2/

LANGUAGE DEVELOPMENT

Vocalization begins at birth with the act of crying - the first type of sound production. A second category of sounds - cooing or babbling - begins at about the 6th week of life; cooing is distinguished from crying by the movement of the tongue and lips, and the use of the mouth cavity and later the teeth, to modulate the sound. Unlike vocalization before 6 weeks, babbling appears to occur in response to the environment. A mother who responds to her baby's babbling by speaking, smiling or touching him, stimulates the child's vocal expression: in contrast, babies raised in institutions, or in social or cultural environments where they are given minimal attention or stimulation demonstrate a lower frequency of babbling. The infant from a 'deprived' environment is also likely to display cognitive and emotional deficiencies as well as linguistic retardation.

Babbling in the period of 6 to 12 months includes vocalization of all the sounds (phonemes) which form the basis of all languages, regardless of the language which the child hears. During this stage, it is evident that vocalization results from the child's processing of sounds in the environment, but is not merely imitation; for example, the child may listen quietly to a sound, and begin to babble when it stops.

The babbling tendency is assumed to be unique to humans. Research on simians has shown that, although they use their voices and produce 'definite wordlike sounds to symbolize feelings, (1) and possibly also ideas', (2) their pattern of communication could not be called speech. It has also been observed that simians do not engage in spontaneous babbling, as human infants do, but only vocalize in direct response to an external stimulus.

There is little evidence available, relating to 'wild children', who have grown up without hearing human speech, although they had normal hearing and vocalization potential. These children's inability to learn to speak, at the preadolescent stage, suggests that the babbling stage of early childhood is a prerequisite to language development providing 'spontaneous phonetic material to facilitate ... speech experiments'. (3) If these babblings evoke no response (from parents, etc.) the process in which the child begins to use sounds as symbols fails to take place. This theory of an 'instinctive phase' in linguistic development is also supported by studies of the vocalization of 6 to 12 month-old infants, who can produce phonemes not heard in their mother toungue, but soon lose this ability and retain only those used in the language they hear around them. The greater facility with which children learn a second language also reflects a carryover of the babbling instinct.

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(1) S. Langer, Philosophy in a New Key, 1942, p. 96, suggests that that 'signify' would be a more appropriate word than 'symbolize'.

(2) S. Langer, op. cit. p. 95, quoting R.Yerkes, 'The Great Apes'

(3) S. Langer, op. cit. p.109

Children begin to speak their first words at about 12 months. Often the word is a reduplicated monosyllable such as 'mama', 'papa', or 'bye-bye', reflecting the repetitive pattern of babbling. Single word utterances are later used by the child to stand for an entire sentence, with intonation used to convey the meaning. At about 18 month to 2 years, the child begins to make two-word utterances, usually with the word order correct, according to the intended meaning - a sign that simple rules of grammar (e.g. subject - object) are already being applied. The child's early statements tend to be telegraphic versions of adult speech, with content words - nouns, verbs, some adjectives - used to convey the meaning. By 4 or 5 years of age, most children have acquired the syntactic (grammatical) rules of their own language almost completely. The other major task in language acquisition - phonology (competence in sound system of a language) - is also mastered in a relatively short time. The child learns to hear and pronounce the distinctive sound differences of his language, the stress patterns in words, 'pronounceable' combinations of sounds in the language, the different intonation, pitch and voice quality in sentence contours.

Thus, from birth, the human begins to realize his potential for self-expression through vocalization, and begins to respond, in an individual way, to the environment. He needs, but does not depend entirely upon, verbal response to his own sounds - without response from those around him, his language development will be retarded, but, except under extreme conditions, not halted. Even the ability to produce unlimited phonemes, which is lost after a short time,can be revived at a later age if a second language is learned. The selectivity involved in the retention of mother tongue phonemes suggests that, at this early age, the infant is attempting to share in the sounds that have meaning to those around him - a sign of reconciliation between self and other. Children's application of grammatical rules suggests further steps towards understanding the importance of a shared language as a source of meaning and value, and as a way of affecting, and being affected by, those around him.

HOW IS LANGUAGE ACQUIRED?

Reinforcement Theory

Skinner and others explain the process of language acquisition in terms of associations between stimulus and response. Infants' spontaneous or imitative sounds are reinforced differentially - sounds resembling adult speech are rewarded by parental attention or praise. Thus the child's utterances become progressively closer approximations of adult speech.

This theory is criticised on the grounds that it regards the child as a passive organism responding to external stimuli and does not account for the child's active role in language acquisition - his rapid progress in comprehension, expanding vocabulary, use of grammatical rules, etc. As well, this theory overemphasizes the importance of reinforcement. Since parents seldom correct the grammar of young children, but rather pay more

... 4/

attention to the truth value of a statement, it would appear that incorrect grammar is reinforced by parents - if so, how does the child master syntactic rules by the age of 5 or 6? Parents respond to speech which is unintelligible to outsiders - if reinforcement played such an important part, then 'babytalk' would persist, as long as it gained parental attention.

Social Learning Theory

Bandura and other social learning theorists claim that children acquire language through observation and imitation of a model's behaviour; reinforcement is not necessary. It would appear valied to assume that exposure to models provides a child with information about a language; imitation, which need not be immediate, probably accounts for expansion of vocabulary and the retention of phoneres which occur in the child's mother tongue. However, this theory does not account for the child's linguistic creativity - his ability to understand new sentences, to construct his own new sentences, and to apply correct grammatical rules.

'Innate Mechanism' Theory

Chomsky developed the theory that, in addition to the contribution of reinforcement and imitation, the child must have an innate ability to process the language which he hears, and thus to produce grammatically correct speech, using his own increasingly complex language system. Chomsky created the analogy of an 'innate mechanism' called a 'Language Acquisition Device' (LAD), which processes input and enables the child to construct a theory about the grammatical rules of the input language.

The child's maturation level affects the length of input which he can process - from the complicated adult sentences which he hears, he selects the stressed, high content words, and tunes out the rest. Key words and situational cues help the child to interprer adult speech; parents tend to verbalize what the child can see or already knows, so the meaning is obvious. As well, children learn language easily from other children, since their statements are usually linked to activities, and therefore meaningful. Thus, at an early age, input is simple, and output is also simple. As linguistic ability develops, the child builds a language system, 'filling words with grammatical tags attached, such as the category, (can it be made plural?, etc.) or selection rules, (what can it be used with? etc.). The child rarely overgeneralizes by making errors involving, for example, the additon of an incorrect suffix to a verb or a noun, such as '-ing' to the end of a noun.

Study of children's speech supports Chomsky's theory- children demonstrate the ability to generate novel sentences, applying correct grammatical rules; they do not merely imitate adult speech or react to external stimuli or parental reinforcement.

... 5/

Chomsky's theory identifies the creative side of language - an active realization of potential rather than a passive response to the environment. However, an eclectic approach is taken by many psycholinguists - they do not ignore the role played by modelling and conditioning. The human element is obviously important in language development, whereas Chomsky's theory could be taken to imply that language could be learned equally well by a young child who listens to a tape recorder or a similar mechanical reproduction of the human voice. Since language helps to shape the child's view of himself and his world, he needs to feel that the sounds he makes have some impact on those around him, particularly on those who, by loving and caring for him, have a special meaning in his life. A recorded voice alone could not fulfill this need.

WHAT IS THE FUNCTION OF LANGUAGE?

The commonsense answer to this question would probably be - communication. However, a closer examination of the nature of language and language development suggests that this explanation is incomplete. Sapir, Mead, Cassirer, Piaget, Langer and others suggest that the main function of language is that of symbolization or objectification of reality. Sapir's explanation summarizes the more complex functions of language which make the theory of language as merely communication inadequate:

> '... language is primarily a vocal actualization of the tendency to see reality symbolically ... it is precisely this quality which renders it a fit instrument for communication ... it is in the actual give and take of social intercourse that it has been complicated and refined into the form in which it is known today. (1)

In her discussion of the young child's language development, Langer explains how a new sound becomes a symbol, through usage: by 'hearing or uttering the vocable ... the baby's mind has hold of (a distinct item) through the word, and can invoke a conception of it through uttering the word, which has thus become the name of the thing.' (2) Cassirer (3) also stresses the importance of speech in enabling the child to pass from a subjective / emotional state to an objective / theoretical state. The young child demonstrates a 'hunger for names', with which to form concepts and objectify his experience; without names, no progress could be made, since each step in objectification would be lost and could not be recalled. Sapir discusses a similar process among adults, giving the example of nature-lovers who feel the need to learn the names of a large number of flowers and trees, 'as though one could not get close to nature unless one first mastered the terminology which somehow magically expresses it.' (4)

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(1) S. Langer, quoting Sapir, 'Language'; p. 99

(2) S. Langer, op. cit. p. 112

(3) E. Cassirer, An Essay on Man, 1934

(4) S. Langer, op. cit. p. 113, quoting Sapir, 'Language'

Similarly, in the process of perception, the grouping of perceptual cues into sets and patterns depends, to a large extent, upon the verbal symbols available in the perceiver's language; the existence of single words to describe discrimatory classifications - 'high codability' - facilitates complex perception. (1) (An example often given to illustrate high codability, is the existence, in the language of the Eskimos, of many words meaning 'snow' - thus, it is easy for the Eskimo to distinguish various snow conditions, since there is a convenient label for each).

In comparing human thought processes and communication with those of the higher primates, Langer claims the symbolic character of human speech - the conceptualization of experience through language - is unique to mankind. On the other hand all of the utterances of an ape or chimpanzee have signification, communicating a need or emotion rather than expressing a conception. (However, current research involving the successful teaching of sign language to simians may, one day, disprove these claims).

THE FUNCTION AND DEVELOPMENT OF LANGUAGE - Piaget

In the introduction to his study of the language and thought of children, Piaget points out that the communication theory is inadequate in explaining the functions of both adult and child language: adult speech can be classified as assertion, command, desire, criticism, threat, etc., as well as internal speech and 'audible soliloquy'. Piaget also suggests that words, with their precise, limited meanings, may actually prevent thought from being communicated accurately and effectively.

Piaget's detailed study of the actual language of two six-year-old boys, each observed and recorded for about one month, led to the conclusion that the child of this age used two kinds of speech - ego-centric and socialized. In ego-centric speech, the child talks about himself, and, most importantly, does not try to put himself at the point of view of his audience; his speech has no social function and communication of thought is not his prime concern. Three categories of ego-centric speech emerge from Piaget's data:

- repetition of words and syllables, merely for the pleasure of talking
- monologue, in which the child talks to himself, not addressing anyone
- collective monologue, where an outsider serves as a stimulus, but is not expected, necessarily, to understand the statements made

Five categories of socialized speech - adapted information, criticism, commands, questions and answers, have in common some interaction between children and some degree of adaptation to the point of view of the audience. It was found that 44 - 47% of the six-year-olds' spontaneous language was ego-centric, dropping

(1) A. Lindesmith and A.Strauss, Social Psychology, 1968, p.154

... 7/

to about 25% by the time they were 8 years old. Therefore, it was concluded that it is not until children are older that they begin to strive for improved communicability and mutual understanding through language. Ego-centric language is rarely present at the adult stage: the adult's thought and speech are highly socialized - constantly being adapted to the point of view of the audience, in order to be comprehensible.

Although children's speech appears to be socialized- they are constantly talking to each other about their activities - this language is, in fact, ego-centric, serving to accompany and reinforce individual activity rather than to impart information in a comprehensible manner or to consider the hearer's perspective.

In seeking to explain the existence of these two kinds of language in children - socialized and ego-centric - Piaget Presents the distinction developed by psychoanalysts between two modes of thinking - directed or intelligent thought, and undirected or autistic thought. Directed thought is conscious, intelligent, adapted to reality, communicable by language. Autistic thought is subconscious, based in the imagination rather than in reality; it serves to satisfy individual desires and feelings, and therefore is not directly communicable. Thus, the product of directed thought is socialized speech - adapted to the audience, whereas autistic thought gives rise to ego-centric speech, which is, to a large extent, non-communicable and therefore incomprehensible. Ego-centric logic tends to be intuitive, does not develop explicit steps in reaching a conclusion, and depends on memories of earlier reasoning and value judgments. Communicated intelligence, on the other hand, is based on deduction, proof and collective value judgments.

Piaget, therefore, bases his explanation on the premise that cognitive development sets the pace for language development: the first linguistic forms in the child's speech are those which express meanings consistent with the child's level of cognitive development, expressing the most basic ideas available to the child's mind. Psycholinguistic research tends to support this view. Cross-cultural studies have shown that the early speech of children learning widely different languages revealed uniformity in the meanings expressed in two-word utterances, including identification, location, negation, possession, attribution, etc. English-speaking children demonstrated the early acquisition of the prepositions of place - 'in' and 'on', while more complicated prepositions of place, involving dimension - 'below', 'behind', etc., were learned at a later stage. A significant correlation between grammatical or semantic complexity and order of acquisition has been found; the child has less difficulty in learning to use simple rules, such as the use of plurals, which refers to number only, whereas rules involving two or more variables (number, tense, etc.) present difficulties.

These trends in language acquisition could be attributed to the close link to cognitive development, but there are other possible factors which may contribute, including parental

... 8/

use, perceptual salience, and information value. The child's difficulty with more complex grammatical or semantic rules does not prove conclusively that linguistic competence depends on cognitive capacities. Studies of Finnish and Arabic children demonstrated that certain complex grammatical forms presented difficulties even to twelve-year-old children, who had no difficulty grasping the concept underlying the rule. (In Arabic, the plural form when referring to numbers greater than 'x' was different to the form for numbers less than 'x'.)

Piaget's work demonstrates clearly that, for the young child at the egocentric stage, communicability has a low priority - the response of those around him is less important than the subconscious satisfaction which he derives from language. When observing a child at this stage, it seems that the continual 'chatter' which accompanies his activities is, in fact, an intrinsic part of the act he is performing, and that the performance would be incomplete, for the child, if he were not permitted to engage in this spontaneous language. In this respect, it may serve the function which babbling serves for the infant - as material for speech experiments and conceptualization. Perhaps it is inaccurate to call ego-centric speech 'unsocialized', since it plays an important part in forming the basis for later, socialized speech - although the young child is not striving for communicability, the responses which he does receive from others must provide him with information which he uses at a later stage in judging which of his statements are most comprehensible to others.

In examining the relationship between language and thought, another aspect must also be considered - are cognitive functions dependent on language? It seems clear that verbal ability facilitates thinking and problem-solving, but it cannot be said that language is necessary for cognitive processes to take place. Language and labelling (verbal mediation) has been shown to have a significant effect upon problem-solving. Studies of children's performances in matching tasks showed that children who were given verbal labels to describe the distinguishing features in the pictures performed better than those who had no labels to use. Studies have also indicated that verbal mediation facilitates memory, but it is not an essential component in this process. Some children, using other mediators such as images, pictorial representations or non-verbal symbols, perform equally well on recognition and recall tasks.

Deaf children perform as well as hearing children on many cognitive tasks, and pass through the same stages in cognitive development, although they show delays of one or two years in some specific areas such as classification and conservation tasks. It has therefore been deduced that a non-verbal symbolic system functions in deaf persons, enabling them to perform successfully on many cognitive tasks without the use of language.

Therefore, it may be concluded that some form of mediation is necessary in order to facilitate cognitive processes - language is the most commonly used, and probably the most efficient form of symbolic system.

... 9/

THE FUNCTION AND DEVELOPMENT OF LANGUAGE - MEAD

Mead develops in detail the theory that language plays a vital role in the genesis of self and self-consciousness. Firstly, he explains how the 'vocal gesture' serves to arouse the same response in one's own mind as in the mind of the other person- this can be considered a type of imitation, in a limited sense: 'We are more or less unconsiously seeing ourselves as others see us ... putting ourselves in the place of others and acting as others act.' (1) Thus, the use of language is a social process, in which one must understand one's own meaning, and convey the meaning to others. This explanation does not apply to language of an emotional nature, but rather to symbolic or 'significant' language, in which universal symbols are used, with the assumption that the symbol evokes a common response in both the speaker and the listener.

Communication involving significant symbols, directed at the speaker as well as the listener, provides a means of achieving selfhood - it enables the individual to view himself as an object, as well as a subject. The individual organism cannot act intelligently or rationally unless it has the capacity to take an objective account of itself as a constituent element in a given situation. Mead claims that this capacity to become an object to himself distinguishes man from the lower animals.

The process by which a vocal gesture arouses in the individual the same attitutde which it arouses in others gives rise to the process of 'taking the role of the other' - looking at oneself as others do, as 'object'. The first stage in this process, for the child, involves role-taking of those individuals who serve a support or control function for him, usually his parents; as a first step, his selfhood is constituted by organizing the attitudes of a few individuals around him. However, to develop full selfhood, the child must go beyond merely taking the attitudes of individuals towards himself and towards each other in the social process. He must also organize the attitudes of the 'generalized other' - the organized social group to which he belongs. By doing this, he facilitates his own personality developmert as well as the strength of the group. The community has control over the individual by its power to determine his thinking, since the context of his thinking is the system of common or social meanings of symbols. These common responses and organized attitudes make society possible' as well, the constitute the structure of an individual's personality, giving him his 'principles', in the form of a a shared value system for that community. Thus, Mead identifies the important link between language development and moral development - role-taking in the moral domain, which involves the cognitive capacity to define situations in terms of others' perspective facilitated by language.

(1) G.H. Mead, Mind, Self and Society, 1934, p. 69

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